

REMARKS/ARGUMENTS

Reconsideration of the above-identified application is respectfully requested.

In the Office Action dated June 27, 2006, the Examiner noted that a reference to the prior applications must be inserted as the first sentence(s) of the specification or in an application data sheet. Claims 1-18 are pending and rejected.

Claims 1-18 are rejected under 35 U.S.C. § 112, 1st paragraph, as failing to comply with the written description requirement.

Claims 1, 5, 6, 8, 15, 17, and 18 are rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 4,315,790 to Rattee et al. (hereinafter "Rattee").

Applicants acknowledged the receipt of PTO-892.

In response to the priority notice, Applicants have amended the specification to insert a reference to the prior applications and filed a Petition to Accept An Unintentionally Delayed Benefit Claim.

In response to the rejections, Applicants have amended claim 1 to incorporate the limitation of claim 4 and cancelled claims 2-4. No new matter has been introduced.

Applicants respectfully submit that the amendments have overcome the rejections for the reasons set forth below:

Priority

The Examiner noted that a reference to the prior applications must be inserted as the first sentence(s) of the specification or in an application data sheet. In response to this comment, Applicants have amended the specification to insert a reference to U.S. Patent Application Nos. 10/136,357 and 09/695,254. Please note that Applicants have properly claimed the status of this Application as the Divisional Application of U.S. Patent Application Nos. 10/136,357 and 09/695,254. A copy of the "Patent Application Transmittal" which accompanied the original filing of the present application is attached as EXHIBIT 1.

Rejections Under 35 U.S.C. § 112, First Paragraph

Claims 1-18 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement for reasons stated on pages 4-6 of the Office Action. Specifically, the Office Action alleges that "the method of claims 1-18 encompasses the coating of virtually any form of 'substrate' with virtually and conceivable form of a 'hydrophobic copolymer.'" (See Office Action at 5).

In response to the rejections, Applicants have amended claim 1 to recite "wherein the hydrophobic copolymer is one selected from the group consisting of poly(styrene-co-maleic anhydride), poly(styrene-co-maleimide), and poly(ethylene-co-maleic anhydride)," and canceled claims 2-4. The amendment is supported at least by the specification in Examples 1, 2 and 11, and in original claim 4.

The Office Action also alleges that "while page 9 of the disclosure lists possible hydrophobic polymers, it is noted that the method requires hydrophilic, not hydrophobic,

copolymers.” (See Office Action at 6). Please note that the Examiner fails to specify where and how he gets the impression that Applicants’ method requires hydrophilic, not hydrophobic, copolymer, since clearly the specification, the examples, and the claims make clear that the method requires a “hydrophobic copolymer.”

In fact, contrary to the Examiner’s allegation, the present invention clearly contemplated that the “on-spot hydrophilic enhanced” slide is formed by “ring-opening when the structure of anhydride, imide, cyclic amide, or cyclic ester on the hydrophobic matrices prepared by the present invention is attacked by a nucleophile (e.g., amine modified oligonucleotide probe), which leads to the formation of on-spot hydrophilic enhancement.” (See Specification at 6). This passage explains how the “on-spot hydrophilic enhanced” slide can be made from the hydrophobic copolymer, *i.e.*, by a ring-opening process of the anhydride, imide, cyclic amide, or cyclic ester group on the hydrophobic copolymer.

Another example of the use of the hydrophobic copolymer to form the hydrophobic layer on the substrate can be found on page 5 of the specification, which recites as follows:

... the hydrophobic copolymer is prepared by blending, grafting or co-polymerization of a hydrophobic material and a compound bearing functional groups. The resulting hydrophobic copolymer is then coated onto an organic or inorganic substrate to form a hydrophobic layer with covalent bonding functional groups, which is useful in the preparation of a high-density microarray. (emphasis added).

(See Specification on page 5, lines 13-23).

Accordingly, the method of the present invention requires hydrophobic, not hydrophilic, copolymers. The hydrophobic copolymers, however, are capable of on-spot

hydrophilic enhancement via ring-opening when attacked by a nucleophile.

Taken together, Applicants respectfully submit that the amendments obviate the grounds for the rejections. Withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, is respectfully requested.

Rejections Under 35 U.S.C. § 102/103

Claims 1, 5, 6, 8, 15, 17, and 18 are rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Rattee. Applicants respectfully traverse the rejection.

For anticipation under 35 U.S.C. §102, the reference “must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present.” (MPEP §706.02, IV. Distinction between 35 U.S.C. §§ 102 and 103, page 700-21). The Federal Circuit has held that prior art is anticipatory only if every element of the claimed invention is disclosed in a single item of prior art in the form literally defined in the claim (*Jamesbury Corp. v. Litton Indus. Products*, 756 F.2d 1556, (Fed. Cir. 1985); *Atlas Powder Co. v. DuPont*; 750 F.2d 1569, (Fed. Cir. 1984); *American Hospital Suppl v. Travenol Labs*, 745 F.2d 1 (Fed. Cir. 1984).

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991) and *MPEP* § 2142.

Claim 1 recites a method for preparing an on-spot hydrophilic enhanced slide by (a) preparing a hydrophobic copolymer in a solvent to obtain a solution of hydrophobic copolymer, wherein the hydrophobic copolymer is one selected from the group consisting

of poly(styrene-co-maleic anhydride), poly(styrene-co-maleimide), and poly(ethylene-co-maleic anhydride); (b) coating the solution of hydrophobic copolymer onto a substrate; and (c) removing the solvent.

As admitted by the Examiner, Rattee teach a method of coating a support with hydrophilic copolymers (See Office Action at 8). Rattee does not teach or suggest coating a support with hydrophobic copolymers. Moreover, Rattee fails to disclose that the hydrophobic copolymer is one selected from the group consisting of poly(styrene-co-maleic anhydride), poly(styrene-co-maleimide), and poly(ethylene-co-maleic anhydride), as recited in claim 1.

Accordingly, Applicants respectfully submit that Rattee does not anticipate claim 1 or render claim 1 obvious because Rattee does not disclose every limitation of the claimed invention.

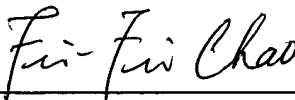
Claims 5, 6, 8, 15, 17, and 18 are patentable over Rattee because they depend from claim 1 and recite additional patentable subject matter. Withdrawal of rejections to claims 1, 5, 6, 8, 15, 17, and 18 under 35 USC 102(b)/103(a) over Rattee is respectfully requested.

In view of the foregoing remarks, favorable reconsideration of all pending claims is requested. Applicants respectfully submit that this application is in condition for allowance and request that a notice of allowance be issued. Should the Examiner believe that anything further is required to expedite the prosecution of this application or further clarify the issues, the Examiner is requested to contact Applicants' attorney at the telephone number listed below.

Appl. No. 10/670,225
Amdt. dated September 27, 2006
Reply to Office Action of Jun 27, 2006

Respectfully submitted,

Dated: **September 27, 2006**



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UTILITY
PATENT APPLICATION
TRANSMITTAL

Attorney Docket No. 3235-193305

First Inventor Bor-luan Jan et al.

Title ON-SPOT HYDROPHILIC ENHANCED SLIDE AND PREPARATION THEREOF

(Only for new nonprovisional applications under 37 C.F.R. 1.53(b))

Express Mail Label No.

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:

Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
See 37 CFR 1.27.
2. ☐ Applicant claims small entity status.
3. ☒ Specification [Total Pages 25]
(preferred arrangement set forth below)
- Descriptive title of the Invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to sequence listing, a table, or a computer program listing appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings (if filed)
- Detailed Description
- Claim(s)
- Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 8]
5. Oath or Declaration [Total Pages 1]
a. ☐ Newly executed (original or copy)
b. ☒ Copy from a prior application (37 CFR 1.63 (d))
(for a continuation/divisional with Box 18 completed)
i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76
- 6a. ☐ Priority is claimed under the provisions of 35 U.S.C. § 119
Appln No. _____ filed in _____ on _____
Appln No. _____ filed in _____ on _____

7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
a. ☐ Computer Readable Form (CRF)
b. Specification Sequence Listing on:
i. ☐ CD-ROM or CD-R (2 copies); or
ii. ☐ paper
c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATIONS PARTS

9. ☒ Assignment Papers (cover sheet & document(s))
10. ☐ 37 C.F.R. §3.73(b) Statement ☐ Power of Attorney
(when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
13. ☒ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
16. ☐ Request and Certification under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. ☐ Other: _____

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☒ Divisional ☐ Continuation-in-part (CIP)

of prior application No: 10 / 136,357

Prior application information: Examiner Bradley L. Sisson

Group / Art Unit: 1634

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

20. CORRESPONDENCE ADDRESS

☒ Customer Number or Bar Code Label

26694

26694

PATENT TRADEMARK OFFICE

or ☐ Correspondence address below

Name	VENABLE				
Address	P.O. Box 34385				
City	Washington	State	D.C.	Zip Code	20043-9998
Country	U.S.A	Telephone	202-962-4800	Fax	202-962-8300
Name (Print/Type)	Fei-Fei Chao, Ph.D.		Registration No. (Attorney/Agent)		43,538
Signature	Fei-Fei Chao			Date	September 26, 2003

FEE TRANSMITTAL
for FY 2003

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.15.**TOTAL AMOUNT OF PAYMENT** (\$) 790**Complete if Known**

Application Number	Not Yet Assigned
Filing Date	September 26, 2003
First Named Inventor	Bor-luan JAN et al.
Examiner Name	Bradley L. Sisson
Group / Art Unit	1634
Attorney Docket No.	32350-193305

METHOD OF PAYMENT (check all that apply)
☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None
☒ Deposit Account:
 Deposit
Account
Number
Deposit
Account
Name

22-0261

VENABLE ATTORNEYS AT LAW

The Commissioner is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments
☒ Charge any additional fee(s) under 1.16 or 1.17 during pendency of this application
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.
FEE CALCULATION**1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	750	2001	375	Utility filing fee	750
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$ 750)

2. EXTRA CLAIM FEES

Total Claims	18	-20 **	=	0	X	Fee from below	=	0
Independent Claims	1	-3 **	=	0	X		=	0
Multiple Dependent					X		=	0

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	84	2201	42	Independent claims in excess of 3	
1203	280	2203	140	Multiple dependent claim, if not paid	
1204	84	2204	42	** Reissue independent claims over original patent	
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$ 0)

**or number previously paid, if greater; For Reissues, see above

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing request for ex parte reexam	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17 (q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	40
1809	750	2809	375	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	
Other fee (specify) _____					
*Reduced by Basic Filing Fee Paid					SUBTOTAL (3)
					(\$ 40)

SUBMITTED BY**Complete (if applicable)**

Name (Print/Type)	Fei-Fei Chao, Ph.D.	Registration No. Attorney/Agent	43,538	Telephone	202-344-8011
Signature	Fei-Fei Chao			Date	September 26, 2003

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.
SEND TO: Commissioner for Patents, Washington, DC 20231.

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PC Docs No. DCDocs2/487256